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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/092,353

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EXAMINER

VO, TUNG T

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,353	Applicant(s) KATSAVOUNIDIS ET AL.	
	Examiner Tung Vo	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 11 and 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6-8, 10, 13-15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al. (US 6,571,361).

Re claims 6-7 and 13-14, Kikuchi discloses a method of decoding a video bitstream (fig. 8) that includes systematic (fig. 8, e.g. the a dynamic image decoding system comprises a systematic forward error correction)) forward error correction (FEC) codes (802 of fig. 8), the method comprising the step of:

receiving the video bitstream (205' of fig. 8), which includes video data (801 of fig. 8; Note CODE STRING),

at least on data packet (fig. 15-17, e.g. the transmission/storage is carried out by dividing into packets (col. 41, lines 1-8)) and at least one header (col. 41, lines 5-9, e.g. the head (header) of the packets is always arranged at the synchronization code inserting position), and

at least one of the FEC codes (802 of fig. 8; Note FEC IDENTIFYING SIGNAL) corresponding to a subset of the video data (CHK1, MODE, MV, COEF of fig. 4) and a header code (PH of fig. 4, e.g. picture header) that specifies the subset of video data to which one or more the FEC codes correspond (col. 14, lines 21-54),

the subset of video data being limited to one of motion vectors (MV of fig. 4), DC coefficients (COEF of fig. 4), and header information (see also figs. 43-47, e.g. VH);

retrieving video data from the video bit-stream (800 of fig. 8);

evaluating the video data determine the presence of a corrupt portion (error) thereof (804 of fig. 8);

determining if the corrupt portion of video data corresponds to the subset data corresponding to the FEC codes (903-904 of fig. 9; col. 22, line 36-col. 23, line 20) from the header codes from a user data video packet in the video stream; wherein the user data video packet associated with the VOP (figs. 43-47; e.g. a video stream packet is distributed to a user, and the user can get the video packet from the transmission/storage medium, called as the user data video packet);

retrieving at least one of the FEC codes from data packets of the video bitstream as specified by the header code responsive of a correspondence of the corrupt portion of the video data with FEC code portion (904 of fig. 9; col. 21, line 39-col. 22, line 16); wherein a header code (1101 as HEADER (1), 1102 as HEADER (2), 1103 as HEADER (3), and 1104 as HEADER (4) of fig. 11) that specifies the subset of video data to which one or more of the FEC codes (FEC1, FEC2, FEC3, and FEC4 of fig. 11) correspond, the subset of video data being limited to one of motion vectors, DC coefficients, and header information (MV as motion vectors, COEF as coefficients, and PH as picture header of fig. 15)

correcting the corrupt portion of the video data in accordance with the at least one of FEC codes to recover uncorrupted video data therefrom (904, 915 of fig. 9);

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decoding the video data and reconstructing the corrupt portion of the video data in accordance with the corresponding at least one of FEC code (VLD, 806 and 810 of fig. 8);

wherein the FEC code correspond to Bose-Chaudhuri-Hocquenghem (BCH) codes (col. 1, lines 28-30).

Re claim 8, 10, 15, and 17, Kikuchi further teaches a buffer as a transmission/storage medium (col. 22, lines 14-19) for storing the coded string, wherein the input decoding unit (800 of fig. 8) receives and retrieves code string, FEC kind identifying signal synchronization code detection signal, and error detection signal (801-804 of fig. 8), wherein a case where the transmission/storage is carried out by dividing into packets or cells at intervals determined in a transmission line or a storage medium, and the packet for a video object plane (VOP of figs. 43-47), and a user data video packet associated with the VOP (figs. 43-47; Note a video stream packet is distributed to a user, and the user can get the video packet from the transmission/storage medium, called as a user data video packet).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (US 6,571,361) in view of Chien et al (US 5,621,467).

Re claim 12, Kikuchi does not particularly teach the step of concealing an error in a corresponding pixel with a gray color pixel when the portion of the video data cannot be recovered in the video data correcting step as claimed.

However, Chien further teaches the step of concealing an error in a corresponding pixel (col. 3, lines 48-61, e.g. the error concealment conceal an error in a corresponding to a single component such as luminance, chrominance, color, or gray color pixel...) with a gray color pixel when the portion of the video data cannot be recovered in the video data correcting step.

Therefore, taking the teachings of Kikuchi and Chien as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the error concealment of Chien into the method of Kikuchi to permit of a very advantageous trade off between generating high resolution replacement blocks and blocks with reduced artifacts in the presence of motion.

Doing so would allow the method to minimize the errors during decoding process is performed.

5. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (US 6,571,361), as applied to claims 6 and 13, and in view of Fuji et al. (US 6,807,191 B2).

Re claims 9 and 16, the combination of Kikuchi teaches the buffer for storing the video data above but it does not particularly teach the buffer is a ring buffer as claimed.

However, Fuji teaches the buffer is a ring buffer for storing the video data (fig. 6). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the ring buffer (fig. 6) of Fuji into the decoder of the system of Kikuchi to easily read and write the video

data the video data for decoding. The advantage is that synchronization control can be performed by software because RAM has the delay buffer for the compensation for asynchronization between video and audio to be caused by delays inherent to the decoders and system.

Response to Arguments

6. Applicant's arguments filed 02/27/2006 have been fully considered but they are not persuasive.

The applicant argued that nowhere does the reference disclose or suggest the inclusion of a header code that specifies the subset of video data to which one or more of the FEC codes correspond, the subset of video data being limited to one of motion vectors, DC coefficients, and header information, and no reference to providing FEC codes for the DC coefficients, pages 10 and 11 of the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Kikuchi discloses a header code (1101 as HEADER (1), 1102 as HEADER (2), 1103 as HEADER (3), and 1104 as HEADER (4) of fig. 11) that specifies the subset of video data to which one or more of the FEC codes (FEC1, FEC2, FEC 3, and FEC 4 of fig. 11) correspond, the subset of video data being limited to one of motion vectors, DC coefficients, and header information (MV as motion vectors, COEF as coefficients, and PH as picture header of fig. 15). It is noted that the claimed invention recites the subset of video data being limited to one of motion vectors, DC coefficients, and header information, and the subset of video data being limited to one of motion vectors, DC coefficients, and header information is taught by Kikuchi (fig. 15), and wherein the

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COEF of figure 15 inherently contains the AC and DC coefficients (DCT residues have AC and DC coefficients), therefore Kikuchi anticipates the claimed features.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tung Vo
Primary Examiner
Art Unit 2621